DCS 6000

User Manual

Digital Conference System

CU 6005/6010/6011 Central Unit

Central Unit for series DCS 6000 Voting Units, Conference Units, Interpreter Units, Ambient Noise Microphone, Channels Selectors and Audio Output Units

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Important

Important Safety Instructions

1 **Read these instructions** - All the safety and operating instructions should be read before the apparatus or system is operated.

2 **Keep these instructions** - The important safety instructions and operating instructions should be retained for future reference.

3 **Heed all warnings** - All warnings on the apparatus and in the operating instructions should be adhered to.

4 **Follow all instructions** - All instructions for installation or use/operating should be followed.

5 **Do not use this apparatus near water** - Do not use this apparatus in a water or moistures environment - for example, near a bath tub, wash bowl, kitchen sink, or laundry tub, in a wet basement, near a swimming pool, in an unprotected outdoor installation, or any area which is classified as a wet location.

6 **Warning: To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture and no objects filled with liquids, such as vases, should be placed on this apparatus.**

7 **Clean only with dry cloth** - Unplug the apparatus from the outlet before cleaning. Do not use liquid cleaners or aerosol cleaners.

8 **Do not block any ventilation openings. Install in accordance with the manufacturer's instructions** - Openings in the enclosure, if any, are provided for ventilation and to ensure reliable operation of the apparatus and to protect it from overheating. These openings must not be blocked or covered. This apparatus should not be placed in a built-in installation unless proper ventilation is provided or the manufacturer's instructions have been adhered to.

9 **Do not install near any heat sources such as radiators, heat registers, stoves, air ducts, or other apparatus (including amplifiers) that produce heat.**

10 **Do not install the unit in a place exposed to direct sunlight, excessive dust or humidity, mechanical vibration or shock**.

11 **To avoid moisture condensations do not install the unit where the temperature may rise rapidly.**

12 **Do not defeat the safety purpose of the polarized or ground-type plug.** A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wider blade or the third prong is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.

13 **Protect the power cord from being walked on or pinched particularly at plug, convenience receptacles, and the point where they exit from the apparatus.**

14 **Only use attachments/accessories specified by the manufacturer**. Any mounting of the apparatus should follow the manufacturer's instructions, and should use a mounting accessory recommended by the manufacturer.

15 **Use only with the cart, stand, tripod, bracket or table specified by the manufacturer, or sold with the apparatus.**

When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over - Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.

16 **Unplug this apparatus during lighting storms or when unused for long periods of time**. – Not applicable when special functions are to be maintained, such as evacuation systems.

17 **Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped**.

18 **Replacement Parts** - When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or having the same characteristics as the original part.

Unauthorized substitutions may result in fire, electric shock or other hazards.

19 **Safety Check** - Upon completion of any service or repairs to this apparatus, ask the service technician to perform safety checks to determine that the apparatus is in proper operating condition.

20 **Overloading** - Do not overload outlets and extension cords as this can result in a risk of fire or electric shock.

21 **Power Sources** - This apparatus should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supply you plan to use, consult your appliance dealer or local power company. For apparatuses intended to operate from battery power, or other sources, refer to the operating instructions.

22 **Power Lines** - An outdoor system should not be located in the vicinity of overhead power lines or other electric light or power circuits, or where it can fall into such power lines or circuits. When installing an outdoor system, extreme care should be taken to keep from touching such power lines or circuits, as contact with them might be fatal.

23 **Object and Liquid Entry** - Never push objects of any kind into this apparatus through openings as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock.

Never spill liquid of any kind on the apparatus. Should any liquid or solid object fall into the cabinet, unplug the unit and have it checked by qualified personnel before operating it further.

Labels

"Lightning Flash Symbol" with the lightning flash with arrowhead symbol within an equilateral triangle, is intended to alert the user to the presence of un-insulated "dangerous voltage" within the product enclosure that may be of sufficient magnitude to constitute a risk of shock to persons.

"Exclamation Point Symbol" with the exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

Note for Power Connections

Check that the voltage of your local power supply is within the operating voltage of the unit. If a voltage conversion is required, consult your DIS dealer or qualified personnel.

Set the Power switch to OFF if it is not used for several days.

The equipment must be connected to earth (ground).

The wires in the main lead supplied with the equipment are coloured in accordance with the following codes:

Green-and-yellow	Earth (Ground)
Blue	Neutral
Brown	Live

The green-and-yellow wire must be connected to the terminal in the plug marked with the letter E or with the safety earth symbol or marked with green-and-yellow colour.

The blue wire must be connected to the terminal marked with the letter N or marked with black colour.

The brown wire must be connected to the terminal marked with the letter L or marked with red colour.

For pluggable equipment, the socket-outlet shall be installed near the equipment and shall be easily accessible.

Power Disconnect

Apparatuses with or without ON/OFF switches have power supplied to the apparatus whenever the power cord is inserted into the power source; however, the apparatus is operational only when the ON/OFF switch is in the ON position. The power cord is the main power disconnect for all apparatuses.

Compliancy

The equipment has been tested and found to comply with the limits of the following standards for digital devices:

- EN55103-1 (Emission)
- EN55103-2 (Immunity)
- EN60065 safety
- UL6500 safety
- FCC rules part 15, class A (Emission)

The device complies with part 15 of the FCC rules. Operation is subject to the following conditions: (1) The device may not cause harmful interference, and (2) the device must accept any interference received, including interference that may cause undesired operation.

These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in residential, commercial or light industrial environments. The equipment generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with the user manual it may cause harmful interference to radio communications.

You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate this equipment.

Operation of this equipment in residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense. Intentional or unintentional changes or modifications not expressly approved by the party responsible for compliance shall not be made. Any such changes or modifications could void the user's authority to operate the equipment.

If necessary, the user should consult the dealer or an experienced radio/ television technician for corrective action.

WARNING: This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

Cleaning

To keep the cabinet in its original condition, periodically clean it with a soft cloth. Stubborn stains may be removed with a cloth lightly dampened with a mild detergent solution. Never use organic solvents such as thinners or abrasive cleaners since these will damage the cabinet.

Repacking

Save the original shipping cardboard box and packing material; they will become handy if you ever have to ship the unit. For maximum protection, re-pack the unit as originally packed from the factory.

Warranty

The unit is minimum covered by 12 months warranty against defects in materials or work-manship.

Description of the DCS 6000 system

Features

The DCS 6000 system has the following main features:

- Fully digital
- Excellent sound quality
- "State of the Art" fully digital integrated interpretation, discussion and voting system offering interpretation, language distribution, conference microphone and voting facilities with attendance check with Chip Card ™.
- Unique digital DATA and AUDIO bus.
- 39 incoming channels (8 floor channels + 31 interpreted channels) and one Line input.
- 34 distributed channels (3 x floor + 31 interpreted channels)
- The Delegate and Interpreter units are powered and controlled by the CU 6005 Central Unit, which drives up to app. 50 units on 2 chains or by the CU 6010/6011 Central Unit, which drives up to app. 200 units on 4 chains.
- EX 6010 Extension Units or PS 6000 Power Supplies available if more units are required
- A total of 4000 units (delegate and/or interpreter units) can be connected to the system.
- Using screened CAT5 or CAT5e cabling (FTP or STP) ensuring a very cost effective installation and easy set-up of portable systems
- Firmware in Delegate units, Interpreter Units, Central Units etc. upgradeable through serial PC-connection (RS232 or RS422)
- Can be operated with or without a PC.
- Added functionality and comprehensive features provided by SW 6000 software package running on PC

  RS232/RS422 connection on CU 6005/6010/6011 for external operation of the system of a PC or control system such as AMX or Crestron

The SW 6000 is an optional software package, which expands the functionality of the DCS 6000 system. The software runs on standard computer technology (Standard PC with Windows 2000 or XP).

Main features of the SW 6000 are:

- Microphone management
- Mimic panel operation
- Interpretation management
- Voting management
- Message handling
- Agenda handling
- Data stored on SQL data base
- Web service interface available for easy links to external applications
- Multi language user interfaces
- Supports different User types with different priorities, user interfaces and control possibilities
- Variety of printing facilities such as speaker's log, voting results, delegates list etc.

System components

The CU 6005/6010/6011 Central Unit supports all available units in the DCS 6000 series:

Central equipment etc.

EX 6010	Extension Unit
PS 6000	Power Supply
AO 6004	Audio Output box
AO 6008	Audio Output box
RP 6004	Repeater for four chains
JB 6002	Junction Box with 2 outputs
JB 6004	Junction Box with 4 outputs

Interpreter equipment

IS 6132P	Interpreter Set
LS 6132P	Interpreter Loudspeaker

Voting equipment

DV 6501F	Voting Unit

Conference equipment and channel selectors

CS 6032F V/H	Channel Selector (flush mounted)
DC 6990P	Conference Unit (portable) with touch screen
DM 6010P	Conference Unit (portable)
CM/DM 6070P	Conference Unit (portable) with two built-in channel selectors
CM/DM 6090P	Conference Unit (portable) with two built-in channel selectors and XLR microphone connector
CM/DM 6060F	Conference Unit (flush mounted) with one built-in channel selectors
CM/DM 6510F	Conference Unit (flush mounted) with Chip-card and 3 voting buttons
CM/DM 6560F	Conference Unit (flush mounted) with one built-in channel selector, Chip-card and 3 voting buttons
MU 6040C/D	Microphone Unit for use with customised front plate with Loudspeaker, Microphone and Buttons. Available in Delegate (D) and Chairman (C) version
MU 6042D	Dual Microphone Unit for use with FD/FC front plate with Loudspeaker, Microphone and two delegate Buttons
AM 6040	Ambient Noise Microphone

<u>Important</u>: For the use of above mentioned equipment connected to a CU 6005/6010/6011 Central Unit, please refer to the User Manuals for the equipment.

Operating instructions

CU 6011 Central Unit

General description

The CU 6011 Central Unit for the DCS 6000 is the heart of the system. One CU 6011 is needed in each DCS 6000 system. The CU 6011 consist of four main parts:

- Main processor board with Power PC and DSP
- DCS-LAN Network Control Card with 4 individual DCS-LAN outputs
- 4 individual Power supplies redundant to the Processor board
- LCD display and buttons for system settings

The design with built in power supply makes the unit suitable for running a small system alone or to be the Central Controller for a large system.

Features

The main features of the CU 6011 Central Unit are:

- Controls up to 4000 units (Conference units, Interpreter units or other controllable units). This number does not include Channel Selectors, Repeaters etc. In practical use there are no limits for the number of Channel Selectors in a system.
- Designed for 31 interpreted channels and 8 open microphones
- Operated either stand alone or from an IBM compatible PC with SW 6000 software running under Windows 2000 or XP.
- Built in Power Supplies for app 200 units (Delegate) or app. 600 Channel Selectors
- 4 outputs for connection to Delegate Units, Interpreter Units etc.
- Delayed switching on of power to the four chains, to minimise the total 'in-rush' current on the Mains supply.
- Designed in a standard 2HE 19" cabinet.
- Functionality on the CU 6011 depends on the Feature License uploaded into the unit.

Feature License

The CU 6011 Central Unit has as standard basic functionality.

- Conference Units: max. 50
  This count includes DM, CM, DV units.
  Dual Delegate units count for 2 units.
- Secure audio transmission: No
- Vox, voice activating: No
- Voting: No
- Interpretation Channels: 1-4

By obtaining feature licenses, the functionality can be expanded to include further functionality like:

- Conference Units, max.100, max. 500, max. 1000 or max. 3800
  This count includes DM, CM, DV units.
  Dual Delegate units count for 2 units
- Secure audio transmission
- Voting option
- VOX, Voice Activation
- Interpreter Channels, 1-8 channels, 1-16 channels or 1-31 channels
- 3 part voting control using RS232 port on CU 6011

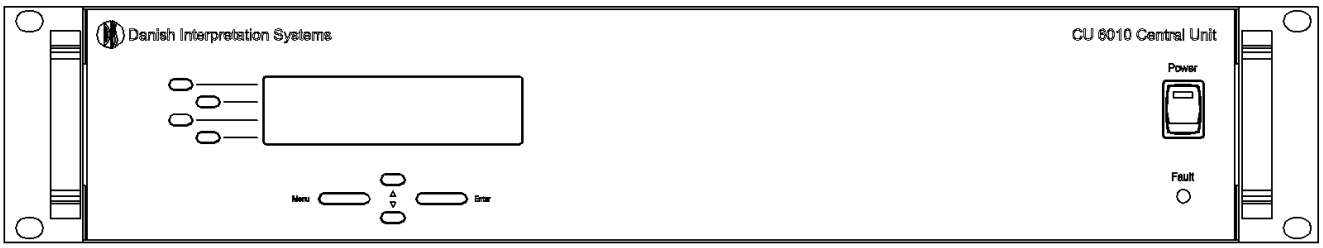
The file with the Feature License key is delivered from your authorised DIS Distributor or Dealer and can be uploaded in the CU using a standard PC or Laptop. For details about uploading the Feature license, please consult the User Manual "DCS6000 Feature License Key".

This manual describes all features available

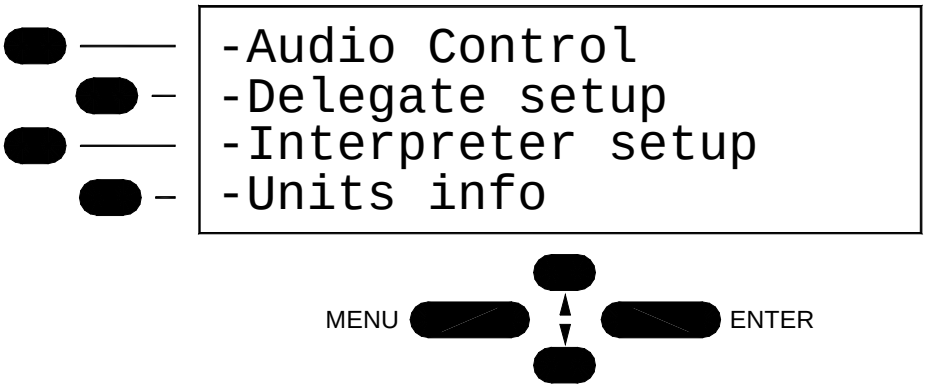
User Controls, indications & connectors

Front plate layout

The front plate layout of the CU 6011 Central Unit consists of a large illuminated LCD display and 8 buttons for setting up/controlling the system:



- ***Details of display***



Front plate controls

The CU 6011 Central unit features the following controls and display:

- ***Power switch***

Switches power on to the whole system. When power is switched ON at the CU 6011 any connected EX 6010 Extension Units will automatically be powered up. An indication in the switch is lighting, when power is switched ON

- ***Fault LED***

This indication lights up, if the internal power supply is malfunctioning i.e. because of overheating or overload of a chain.

The Fault LED will always light up some seconds after the unit is switched on caused by the delayed switching on of the four supplies.

As a warning the light is flashing at an internal temperature above 45°C. At a temperature above 55°C or if one of the DCS-LAN outputs is supplying no voltage, the LED is lighting constantly.

Please note that the maximum ambient temperature for the CU 6011 is 40 deg. Celsius.

- ***LCD Display***

This display is used for information purposes and set-up purposes.

❑ ***Buttons***

The buttons below and to the left of the display are used when stepping through the different menus and for setting up the system:

- ***Four select buttons***

Four buttons placed on the left-hand side of the display. Each button is associated with a line pointing towards a text line in the display. This indicates, that pushing the button 'selects' the functionality.

- ***Enter button***

The Enter button is used, when a selection is made in the Main Menu. Pressing the Enter button concludes the selection made, and at the same time it indicates a confirmation of the possible changes made within the selection. The Menu system returns to the previous menu. Notice, that some changes are applied immediately, and confirmation is thus not required.

- ***Menu button***

The Menu button is also used, when a selection is made in the Main Menu. The Menu button concludes the selection, but in contrast to the Enter button, the Menu button does not confirm a possible change made within the selection. Instead, the Menu system returns to the previous menu without confirming changes, if confirmation is required.

- ***Up (▲) and Down (▼) buttons***

The Up and Down buttons are used to scroll through menu items, or to increase/decrease values within a selection.

Symbols

The following symbols are used on the LCD display:

❑ **'-'**

The dash symbol ('-') preceding a line of text identifies a submenu or a changeable parameter. The submenu or parameter can be selected by pressing the corresponding select button.

❑ **'>'**

The '>' symbol preceding a line of text identifies a selected parameter. The parameter can be changed by pressing the up and down buttons. The '>' symbol is shown as long as the value of the parameter currently used is the same as the value shown in the display.

❑ **'*'**

The star symbol '*' preceding a line of text identifies a selected parameter, where the value has been changed, but not yet confirmed. The changed value can be confirmed by pressing the Enter button, or it can be dismissed by pressing the Menu button.

❑ **'▲▼'**

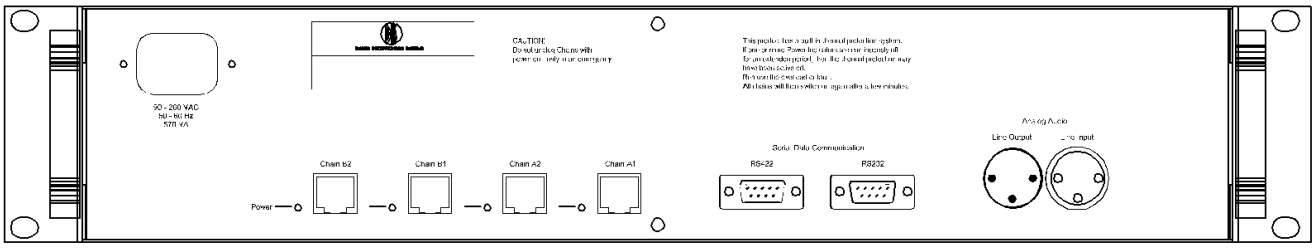
The up and down symbols shown in the right side of the display (up is shown in the first line and down is shown in the last line) indicates that the current menu consists of more than 4 menu items. It is therefore necessary to use the up and down buttons to scroll through menu items.

Indications

❑ ***Cursor***

The cursor is used on the LCD display to indicate, when a value is being changed. For a parameter that is subject to a change, the cursor is placed at the value of the parameter, indicating that it is about to be changed.

Back Panel Layout



Back Panel Connectors

- ***Mains Power connector***

Connection for mains power. See specs.

- ***Analog Audio Line input***

XLR Input connector.

For connection of external Line input signal i.e. the Floor (Speaker) signal from another Conference Microphone System or audio mixers. See specs.

- ***Analog Audio Line output.***

XLR Output connector.

This connector carries the "Floor" signal. It is used either for recording purposes or for feeding signal to an external loudspeaker system. See specs.

- ***Serial Data Communication RS232***

D-Sub9 connector

RS232 Serial connection for communication to PC etc. Either the RS232 or the RS422 can be used.

- ***Serial Data Communication RS422***

D-Sub 9 connector

RS422 Serial connection for communication to PC etc. Either the RS232 or the RS422 can be used.

- ***Chain A1 & A2***

RJ45 connector, 2 pieces

DCS-LAN connectors for connection to DM/CM 6xxx, IS 6032, IS 6132, CS 6032, EX 6010, AO 6004/6008 etc. For connecting Interpreter Sets for up to 16 languages. If more languages are required, Interpreter sets for those languages have to be connected to Chain B1 or B2.

- ***Chain B1 & B2***

RJ45 connector, 2 pieces

DCS-LAN connectors for connection to DM/CM 6xxx, IS 6032, IS 6132, CS 6032, EX 6010, AO 6004/6008 etc. For connecting Interpreter Sets for up to 16 languages. If more languages are required, Interpreter sets for those languages have to be connected to Chain A1 or A2.

- ***Power LED's***

Those LED's light up when Power is available on the connector next to the LED and only if the voltage is over 24V (not overloaded).

System settings

Control of the system settings is done through selections made in the main menu. Pressing the Menu button will show the Main menu, which comprises the following entries:

- Audio control
- Delegate setup
- Interpreter setup
- Ambient Microphone
- Units info
- RS232 setup
- Security setup
- Configuration
- License info
- Firmware info

A selection is made in the Main menu by scrolling through the menu items with the Up/Down buttons, and pressing the Select button associated with the desired menu item. When scrolling through the menu items, the Main menu wraps around the list of menu items, i.e. passing the last menu item makes the first menu item appear, and likewise when passing the first menu item.

Pressing the Menu and Enter buttons does not have any effect in the Main Menu.

Audio control

By pressing the select button for the "Audio Control" menu adjustment of the audio levels becomes possible:

- Loudspk volume
- LineOut volume
- Mic->Loudspk
- Mic->LineOut
- LineIn->Loudspk
- LineIn->LineOut
- LineInlevel Adj

By pressing the first select button, adjustment of the loudspeaker volume is selected. This is indicated by the '>'-indicator, and the cursor starts flashing at the value:

```
>Loudspk volume:  -7dB ▲
-LineOut volume:   4dB
-Mic->Loudspk:   -10dB
-Mic->LineOut:     0dB ▼
```

The up/down buttons can now alter the value of the loudspeaker volume. A change made to the loudspeaker volume takes effect immediately. The volume is changed in steps of 1 dB. The value of 0 indicates 'standard' setting.

Pressing the Menu or the Enter button ends change of loudspeaker volume. Change of other audio levels is done the same way as for the loudspeaker volume in steps of 1 dB. All changes take effect immediately.

The Audio Control menu comprises the following complete list of adjustment items:

- ***Loudspk volume***

This is the Master Loudspeaker volume, the audio level of the loudspeakers of the delegate microphone units.

Values: {Off, -40, -39, …, -1, 0}

- ***LineOut volume***

The audio volume of the 'LINE OUTPUT' signal from the CU.

Values: {Off, -40, -39, …, 19, 20}

- ***Mic->Loudspk***

Attenuation/Gain of the audio signal transmitted from speaking delegate microphones to the delegate microphone unit loudspeakers.

Values: {Off, -40, -39, …, 19, 20}

- ***Mic->LineOut***

Attenuation/Gain of the audio signal transmitted from speaking delegate microphones to the 'LINE OUTPUT' signal.

Values: {Off, -40, -39, …, 19, 20}

- ***LineIn->Loudspk***

Attenuation/Gain of the audio signal transmitted from the 'LINE INPUT' to the loudspeakers of the delegate microphone units.

Values: {Off, -40, -39, …, 19, 20}

- ***LineIn->LineOut***

Attenuation/Gain of the audio signal transmitted from the 'LINE INPUT' to the 'LINE OUTPUT'.

Values: {Off, -40, -39, …, 19, 20}

- ***LineInlevel Adj***

Attenuation/Gain of the XLR audio input signal from the 'LINE INPUT'.

Values: {Off, -40, -39, …, -1, 0}

Delegate setup

The "Delegate setup" menu comprises the following entries:

- Max Speakers
- Max. Requests
- Operation Mode
- Voice Detection
- Auto Off Setup

❑ *Max Speakers*

This menu point has two settings:

- Max. Total Speakers
- Max. Delegate Speakers

Values: {1, 2, 3, 4, 5, 6, 7, 8}

The number of 'Total Speakers' defines the maximum number of conference units, which can speak at the same time. This includes both delegate and chairman units.

The number of 'Delegate Speakers' defines the maximum number of Delegate conference units, which are allowed to speak at the same time is defined as "Max Speakers".

Please observe that a Chairman Unit can always be switched ON as long as the number set in 'Max. Total Speakers' are not exceeded.

❑ *Max Requests*

"Max Requests" defines how many delegate units that can be inserted into the list of delegates requesting to speak at the same time.

Values : {0, 1, …, 255}

❑ *Operation Mode*

This menu point has two settings:

- Operation mode
- Interrupt

• *Operation mode*

The "Operation Mode" determines the behaviour of the microphone system.

Values: {Auto, Manual, FIFO, VOX}:

- Auto (or Automatic) mode allows for the microphone units to be switched on immediately upon pressing the microphone ON/OFF button.

  This is indicated by a red light in the 'Speak' lamp in the microphone unit. Pressing the microphone ON/OFF button again will turn the microphone off

  A Chairman Unit is always in Auto or VOX mode.

- Manual mode features a request list, where 'Delegates' are inserted in a queue upon pressing the microphone ON/OFF button. This is confirmed by a steady green light in the 'Request' lamp in the delegate unit. It is possible to cancel the request by pressing the button again.

  The microphone can only be switched on from a PC running SW 6000 software or from a control system like AMX or Crestron. This will be indicated by red light in the 'Speak' lamp in the microphone unit. At this point the delegate can switch off the microphone by pressing the ON/OFF microphone button.

  Although it is possible to switch to this mode in a stand-alone-system, this mode is only used with an attached PC running SW 6000 software or using with a control system.

- FIFO is an automated mode. The microphone unit functions in the same way as in *automatic* mode as long as the number of turned on delegate units is less or equal to the selected maximum speakers.

  When the max. number is reached, the next delegate pressing the *ON/OFF* button will be put in the top of the request queue. This is indicated by the green 'Request' lamp flashing slowly.

More delegates will be put in the request queue when they press their ON/OFF buttons, until the maximum of requests is reached. Their green 'Request' lamps will light up steadily.

When one of the turned ON microphone units is switched off, the first delegate unit in the queue is automatically switched ON, and the next delegate unit in the queue will flash with the green 'Request' lamp.

This mode will normally be used with only 1 as maximum speakers.

- VOX, voice activation mode allows for the microphone units to be switched on automatically if speaking in the microphone or by pressing the microphone ON/OFF button.

  This is indicated by a red light in the 'Speak' lamp in the microphone unit. Pressing the microphone ON/OFF button again will turn the microphone off.

  The microphone turns of automatically after finished talking after the time defined in the "Release Time" setting (se later paragraph), which normally is 4 seconds. The microphone can also be turned off by pressing the ON/OFF button.

  A Chairman Unit is always in Auto or VOX mode

- ***Interrupt***

The "Interrupt" setting determines the behaviour of the microphone units.

Values: {None, Lower, Lower+Same}

None

When "None" is selected and the number of open Delegate units has reached the number specified in the setting "Max. Delegate Speakers" no more delegate microphone can be opened. Pressing the microphone buttons will not turn on the microphone but 3 flashes in the green LED will indicate, that the maximum number has been reached.

It is similar for Chairman units if the number of open units (Chairman and Delegate) has reached the number specified in the setting "Max. Total Speakers".

Lower

If however "Lower" is selected a chairman will interrupt (switch Off) the first switched On delegate unit if the number of open units (Chairman and Delegate) has reached the number specified in the setting "Max. Total Speakers".

Lower+Same

If "Lower+Same" is selected a delegate unit will interrupt (switch Off) the first switched On delegate unit if the number of delegate units has reached the number specified in the setting "Max. Delegate Speakers".

Similar a chairman will interrupt (switch Off) the first switched ON delegate unit if the number of open units (Chairman and Delegate) has reached the number specified in the setting "Max. Total Speakers", and if no delegate unit is switched ON the first switched ON Chairman unit will be switched OFF.

- ***Voice Detection***

This menu point has two settings:

- Treshold
- Release time

Those settings determines the behaviour of the system when working in VOX mode

- ***Treshold***

Values: {-5,-4,-3, -2, -1, 0,1,2,3,4,5}

The default value is '0'. Setting to a lower value makes the microphone more sensitive.

- ***Release time***

Values: {from 1 to 10 seconds in 0.5 sec step}

This setting is used to set the time from the delegate stops talking until the microphone turns off. The default value is 4 sec.

❑ ***Auto Off Setup***

This menu point has two settings:

- Auto Off
- Auto Off time

Those settings determine the behaviour of the Auto Off facility for the conference units.

- ***Auto Off***

Values: {On,Off}

When set to On a conference unit will automatic turn of the microphone when the delegate stops talking. The time is determined by the 'Auto Off time' setting.

- ***Auto Off time***

Values: {from 5 to 60 seconds in 5 second steps}

This setting is used to set the time from the delegate stops talking until the microphone turns off. The default value is 5 sec.

When the system is set to VOX mode Auto Off settings are disabled.

Interpretation setup

The "Interpretation setup" comprises the following entries:

- Interpreter Channels
- Language setup
- Booth Setup
- Auto Floor
- Interpreter Lock
- Channel Display

❑ ***Interpreter Channels***

This setting is used to set the number of Interpreter Channels in use.

Values: {0 to 31}

When set to 0 value no interpretation channels are present in the system. Only 'Floor' sound will be present

Channel 0 will always give the original audio (floor).

❑ ***Language setup***

The "Language setup" menu will show the number of channels according to the 'Interpreter Channels' settings. :

```
-Channel 1:     Arabic ▲
-Channel 2:  Bulgarian
-Channel 3:     Danish
-Channel 4: Vietnamese ▼
```

A channel entry is selected with the select keys 1-4 and the language for that channel can be chosen with the up/down buttons. If the value is changed is indicated with ">" to the left of the entry.

The new language selection is accepted with Enter button and cancelled with Menu button.

❑ ***Booth Setup***

The "Booth Setup" menu will show a list op Booth (1 to 128).

The Interpretation Channels can now be assigned to the Booth. More Booths can be assigned the same channel.

As default Booth 1 is assigned Channel 1, Booth 2 assigned Channel 2 etc.

❑ ***Auto Floor***

When set to ON a language channel with no interpretation will have the Floor sound.

Values: {On, Off}

❑ ***Interpreter Lock***

The Interlock settings are used to setup the interlock between the Interpretation channels.

The settings are:

- ***Complete Lock***

With this setting an interpreter cannot switch on his microphone to any occupied interpreter channel.

This is the default setting.

- ***No Lock***

With this setting an interpreter turning on his microphone to any occupied interpreter channel, will turn of the interpreter occupying the channel.

- ***Interlock***

Those settings are used to give various interlocks.

A interrupt A

An interpreter turning on his microphone on an A-channel will interrupt another interpreter using his A channel

A interrupt B

An interpreter turning on his microphone on an A-channel will interrupt another interpreter using his B channel, but will not interrupt an interpreter using his A channel.

A interrupt A+B

An interpreter turning on his microphone on an A-channel will interrupt another interpreter using his A or B channel.

❑ ***Channel Display***

This setting is used to switch the showing in the channel selectors displays in conference units between Language Abbreviation and Channel Number.

Ambient microphone

By choosing 'Ambient Microphone' from the main menu and parameters for an AM 6040 Ambient Noise microphone can be set up

The purpose of an ambient noise microphone is to provide sound from a meeting room/conference hall, when there is no delegate/chairman using their microphones.

Transmission of ambient noise rather than transmitting no sound at all is a desirable feature from listeners attending the meeting via headphones. The ambient noise indicates to the listeners, that there is no speaking activity going on, and this information is very nice to have, when interpreters are doing interpretation, and the speaker stops speaking.

The setup menu has the following options:

- Amb.Mic
- Amb.Mic Level

❑ ***Amb.Mic***

When 'enabled' is selected, the Ambient Noise Microphone is active.

When the LineIn>Loudspk under Audio control is set to a value between -40dB and +20dB the microphone will be disabled. If the LineIn>Loudspk subsequently is set to Off, the microphone will stay disabled until enabled in Amb.Mic.

Values: {Enabled, Disabled}

❑ ***Amb.Mic Level***

Adjust the level of the microphone to a level, which is suitable for the listener (Interpreter).

Values: {Off, -40, -39, …,18, 19, 20}

The user returns to the main menu by pressing either the Menu button or the Enter button.

Units info

Selecting "Units info" from the Main menu, the Units info menu is entered:

- Display Chain info
- Display Unit types

❑ ***Display Chain Info***

Pressing the first select button brings the Chain Information display:

```
Chain A (f):           2
Chain B (f):           2
Total (f/e):         4/5
     f:found, e:expected
```

The Chain info menu displays information to the user about units connected to the CU. The information is divided into Chain A, Chain B and total. Found units are connected units, where the communication is maintained, and expected units comprises all units, which are defined in the 'Configuration'.

Menu button or Enter button leaves this screen.

❑ ***Display Unit types***

Selecting the Display Unit types in the Units info menu displays the number of present units. The available units are:

- Delegate units
- Dual Mic. units
- Chairman units
- Voting units
- Interpreter units
- Audio Output units
- Amb. Mic units
- External Control

For external control it is indicated by 'ON' or 'OFF' whether an external PC is connected and communicating (alive) via the RS232/RS422 connection to the CU.

Menu button or Enter button leaves this screen.

RS232 setup

The RS232 setup menu consists of two setup issues:

- RS232 baudrate
- RS232 mode

❑ ***RS232 baudrate***

The "RS232 baudrate" determines the bit rate of the communication between the CU and an external unit connected via the RS232 or RS422 connection.

Values: {2400, 4800, 9600, 19200, 38400, 57600, 115200}

❑ ***RS232 mode***

The "Input mode" defines whether the ASCII communication via RS232/RS422 is protected by CRC check or not.

By protecting the communication ("Protected"), the risk of faulty communication via RS232/RS422 is minimized.

The risk of faults via RS232/RS422 is higher running the "Default" mode; however, the communication is possible from standard interfaces.

The RS232 terminal interface emulator, Tera Term, does not feature the possibility of guarding the ASCII communication by CRC check.

Values: {Default, Protected}

Security setup

The setup determines if "Audio Scrambling" is activates or not.

Values: {Off, On}

Default value is 'off'. When switching to 'on', the CU has to be restarted. All units will automatically change to the scrambled mode.

The scrambling mode is used in high security places, when ears dropping cannot be accepted.

Configuration

The "Configuration" menu comprises three menu items:

- Load configuration
- Save configuration
- Delete configuration

❑ ***Load configuration***

The "Load configuration" item brings the user to the Load configuration confirmation display:

```
This will overwrite
Current Configuration.
Continue?
```

The load is aborted with the Menu button and accepted with the Enter button. In both cases, the menu system returns to the Main menu.

- ***Save configuration***

If the "Save configuration" item is chosen this confirmation display is shown:

```
This will overwrite the
configuration in flash.
Continue?
```

If the user accepts the save the progress display is shown:

```
      Saving...
```

The display is shown for a few seconds before the CU returns to the "Main menu".

- ***Understanding "Save" and "Load" configuration***

When saving the configuration, the setting that has been done in the various menus in CU 6011, at the IS 6132 Interpreter Sets and at AO 6008 Audio Unit will be saved in the 'Flash' memory in the CU 6011.

Also the serial number and type of all units connected to the CU 6011 at the time of saving the configuration will be saved in the 'Flash' memory in the CU 6011.

When switching on power to the CU 6011 at a later stage, then the units connected will be compared to the saved configuration. If some units are not present, they will be reported as 'missing'

When 'loading' a configuration the last settings, which has been saved in the 'Flash' memory in the CU 6011 will be re-loaded to the CU 6011, to the IS 6132 Interpreter Sets and to the AO 6008 Audio Unit.

When switching the power to the CU 6011 OFF and then ON, the last saved setting will also be loaded.

- ***Delete configuration***

The "Delete configuration" item brings the user to the Delete configuration confirmation display:

```
This will delete the
configuration in flash.
Continue?
```

If the user accepts the deletion the progress display is shown:

```
      Deleting...
```

The display is shown for a few seconds before the CU returns to the "Main menu".

License info menu

Selecting the License info menu displays the available features enabled by the current license. The available features are:

- Max. Conf. units
- Max. Intp. Channels
- VOX option
- Voting option
- Security option

Menu button or Enter button leaves the screen.

Firmware info menu

By choosing 'Firmware info' from the main menu information about the software version of the PowerPC and the DSP is shown as well as the Serial Number of the unit:

```
PPC:                  5.3.86
DSP:                  1.0.48
Serial No:      111.111.111
```

The user returns to the main menu by pressing either the Menu button or the Enter button.

Normal Operation

Powering up

Switch on power at the CU 6011. After powering up, the display on the CU 6011 is showing the Start-up screen:

```
Initializing
Please Wait
```

```
Digital Conference
System 6000
DIS
```

```
Registration Mode
Unit registration
Microphones disabled
```

After initialising the following screens are displayed:

```
-Audio control          ▲
-Delegate setup
-Interpreter setup
-Ambient Microphone     ▼
```

```
-Loudspk volume:   0dB ▲
-LineOut volume:   0dB
-Mic->Loudspk:    -9dB
-Mic->LineOut:     2dB ▼
```

This screen is the standard screen showed at normal use. This screen is automatically shown if no buttons is pressed in 2 minutes. The function of this screen is explained in the section **Audio Control menu.**

Use with SW 6000

Please refer to the SW 6000 manuals.

Schematics volume/gain settings

The volume controls, which can be set on the CU 6011 user interface as described in the previous section are shown in the following schematic.

- ***Setting of Loudspeaker volume***
  1. Set the *Mic>Loudspk* to 0dB
  2. Turn up the *Loudspk Volume* to the level needed in the loudspeakers.

- ***Setting Line input level***
  1. Apply the signal to the Input connector
  2. Turn up the input level on “LineInlevel Adj” until you can see the overflow indicator.

```
-LineIn->Loudspk:  -17dB ▲
-LineIn->LineOut:   10dB
>LineInLevel Adj:*  -6dB
-Loudspk volume:     3dB ▼
```

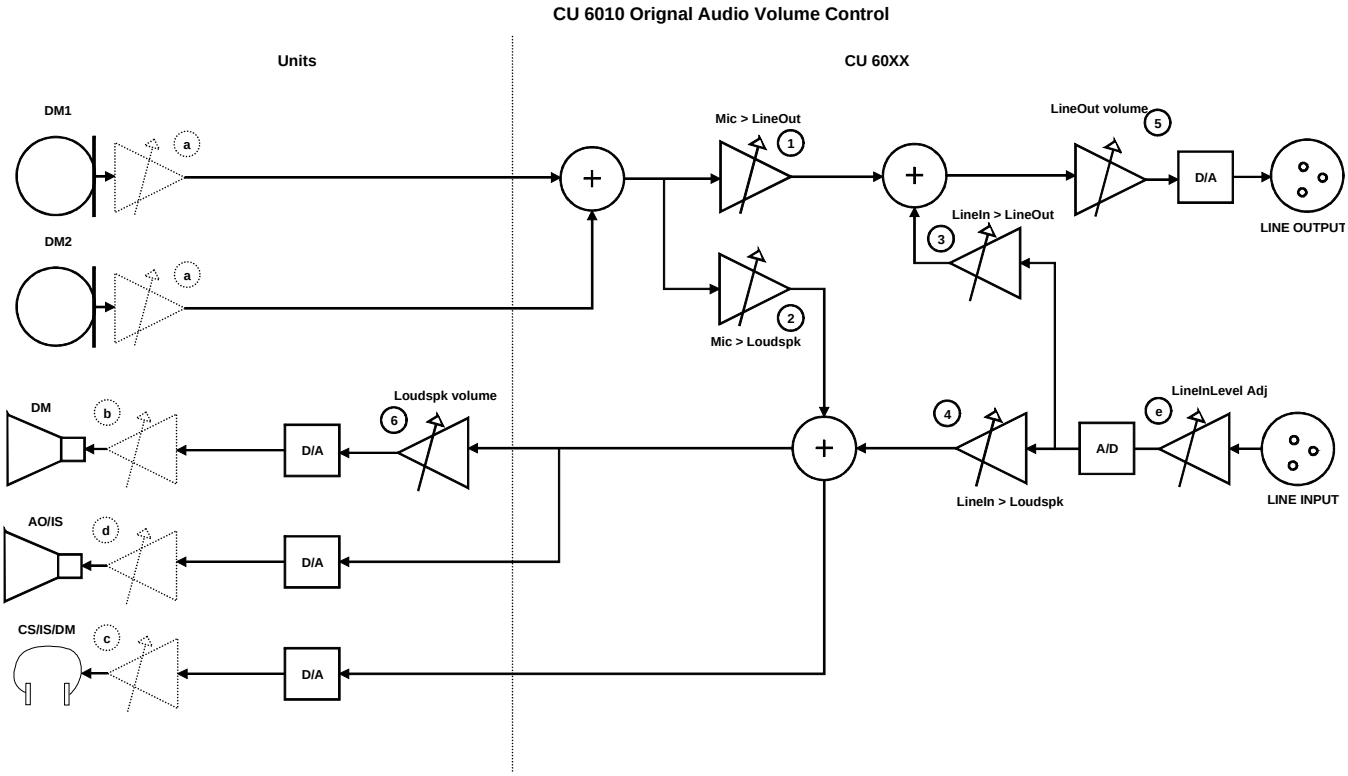
”*” Overflow indicator on line input

  3. Turn then the InputIn level down –8 dB to –12dB from the clipping level. Depending of the source connected, there might be different “overhead” needed. But normally 8-12 db is enough.
  4. Turn up the Linein >Loudspk Volume to the level needed in the loudspeakers

The principle is that the level of signal from the Line Input is combined of two settings:

“LinelnLevel Adj” and “*LineIn->Loudspk”*.

The *LineInLevel Adj* has to be set as high as possible for maintaining the best S/N ration, but not too high to avoid clipping, whereas the *LineIn->LoudSpk* is used for setting the audio level needed in the loudspeakers.



CU 6010 Central Unit

General description

The functionality of CU 6010 is identical to the CU 6011 Central Unit, however the

CU 6005 Central Unit

General description

The functionality of CU 6005 is basically identical to the CU 6011 Central Unit; however the main parts are slightly different:

- Main processor board with Power PC and DSP
- DCS-LAN Network Control Card with 2 individual DCS-LAN outputs (instead of 4)
- One Power supply (instead of 4)
- LCD display and buttons for system settings
- 1 slot in the back panel for inserting modules e.g. AO 6004 (extra)

Features

The features of the CU 6005 are almost the same as for the CU 6011 Central Unit with the following differences:

- Controls up to max. 500 Conference/Voting units. Controls of Interpreter Sets or other controllable units are as for CU 6011.
- Designed for up to 16 interpreted channels (instead of 31) and 8 open microphones
- Built in Power Supply for app 50 Conference Units (instead of 200) or app. 150 Channel Selectors
- 2 outputs for connection to Delegate Units, Interpreter Units etc. (instead of 4)

Feature License

The optional Feature Licenses for the CU 6005 are the same as for the CU 6011 Central Unit with the following differences:

- Conference Units, max.100 or max. 500. This count includes DM, CM, DV units. Dual Delegate units count for 2 units
- Interpreter Channels, 1-8 channels or 1-16 channels

User Controls, indications & connectors

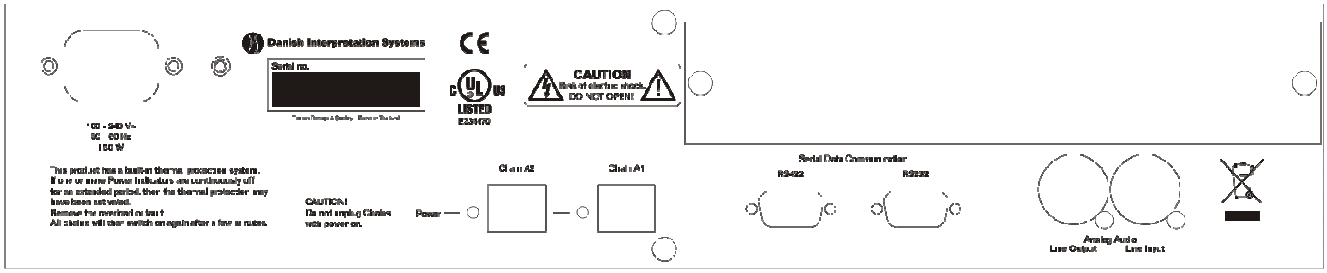
Front plate layout

Identical to the CU 6011 Central Unit.

Front plate controls

Identical to the CU 6011 Central Unit.

Back Panel Layout



Back Panel Connectors

As the CU 6011 Central Unit with the following differences:

- ***Chain A1 & A2 (no chain B1 & B2)***

RJ45 connector, 2 pieces

DCS-LAN connectors for connection to DM/CM 6xxx, IS 6132, CS 6032, EX 6010, AO 6004/6008 etc. For connecting Interpreter Sets for up to 16 languages.

Other

- ***Slot (extra)***

Slot for inserting modules in the back panel, e.g. AO 6004. Slot dimensions (W x H x D) 180 x 38 x 120 mm.

System settings

The same as for the CU 6011 Central Unit.

Normal Operation

The same as for the CU 6011 Central Unit.

System Setup

General guidelines

Connect the CU 6005/6010/6011 to the various DCS 6000 units using Cat5 or Cat5e FTP or STP screened cables.

The operation of the DCS 6000 units is found in the User Manual for the specific units.

Please observe the following guidelines:

- Maximum cable length in one chain is 200 m (before repeating). This includes interconnection cables between the units. The max. usable cable length depends on the units connected and length of feeding cables etc.
- Maximum cable length in one chain when using repeaters is 650 m.
- Although the DCS-LAN Network Output connectors (CU 6005: A1 plus A2, CU 6010/6011: A1, A2, B1 or B2) have a 125W supply, this 125W power is not all available with long cables, as there will be a power drop in the feeding cable from the CU 6005/6010/6011 to the units connected. If the feeding cables are short and the cables between the units are short, more units can be connected than if the feeding cable is long and/or the cables are long between the units. Please consult the next section 'Maximum number of units to be connected'.
- The maximum number of languages configured on chain A (A1 or A2) or B (B1 or B2) is 16. If more languages are required, Interpreter sets for those languages have to be divided between both chains (A and B) – this is only applicable for the CU 6010/6011. Normally the languages are supposed to be divided equally on chains A (A1 or A2) and B (B1 or B2).
- If the last unit in one chain is a CS 6032 Channel Selector, this unit has to be terminated with an external termination, as the CS 6032 does not have an internal automatic termination.

It is desirable that the square of the feeding cables especially but also the interconnection cables are as big as possible to minimize the voltage drop in the cables. Cat 5/Cat5E cables are delivered in various gauges:

The following table is showing the Diameter/square for various AWG types:

Type	Diameter	Square
AWG22	0.64 mm	0.32 mm2
AWG23/1	0.57 mm	0.25 mm2
AWG24	0.53 mm	0.22 mm2
AWG26	0.42 mm	0.14 mm2

Built into 19" Racks

The unit has a built-in fan taking air in at the left side of the unit and blowing the hot air out at the right side. That allows units in 19" racks to be stacked close with other units without extra room for cooling air between them. Please check that the other units will allow this.

Maximum number of units to be connected

The following table shows the maximum number of units, which can be connected to *each* of the four outputs (A1, A2, B1 or B2) on a **CU 6010/6011** Central Unit or on *each* output on an EX 6010 Extension Unit or on the output of a PS 6000.

CM/DM 60x0P Chairman/Delegate Units – CU 6010/6011

Length of Feeding Cable Type CAT5 AWG24	Length of inter connecting Cable, Type CAT5 AWG24	Total cable length	Max. number of CM/DM 60x0P pr output
10 m	1 m	51 m	42
30 m	1 m	67 m	38
50 m	1 m	83 m	34
100 m	1 m	122 m	23
150 m	1 m	165 m	16
10 m	2 m	88 m	40
30 m	2 m	98 m	35
50 m	2 m	108 m	30
100 m	2 m	140 m	21
150 m	2 m	178 m	15

CM/DM 60x0P Chairman/Delegate Units – CU 6005

The following table shows the maximum number of units, which can be connected to the two outputs (A1 and A2) simultaneously on a **CU 6005** *in total*

If only <u>one chain</u> is used the information in the above table must be used.

Length of Feeding Cable Type CAT5 AWG24	Length of inter connecting Cable, Type CAT5 AWG24	Total cable length	Max. number of CM/DM 60x0P for both outputs
10 m	1 m	2x32 m	2x23
30 m	1 m	2x51 m	2x22
50 m	1 m	2x70 m	2x21
100 m	1 m	2x117 m	2x18
150 m	1 m	2x164 m	2x15
10 m	2 m	2x54 m	2x23
30 m	2 m	2x72 m	2x22
50 m	2 m	2x88 m	2x20
100 m	2 m	2x132 m	2x17
150 m	2 m	2x176 m	2x14

CM/DM 60x0P Chairman/Delegate Units & JB 6002 Junction Box – CU 6010/6011

This configuration shows two CM/DM 60x0P Delegate/Chairman Units connected to one JB 6002 Junction Box with 3m cables between each JB 6002.

Maximum 5 m cable from JB 6002 to CM/DM 60x0 and maximum one CM/DM 60x0 on each output of JB 6002.

Length of Feeding Cable, Type CAT5 AWG24	Length of Cable between each JB 6002, Type CAT5 AWG24	Total cable length	Number of JB 6002	Max. number of DM 60x0
10 m	3 m	61 m	18	36
30 m	3 m	75 m	16	32
50 m	3 m	89 m	14	28
100 m	3 m	127 m	10	20
150 m	3 m	168 m	7	14

CM/DM 60x0P Chairman/Delegate Units & JB 6004 Junction Box – CU 6010/6011

This configuration shows four CM/DM 60x0P Delegate/Chairman Units connected to one JB 6004 Junction Box with 3m cables between each JB 6004.

Maximum 5 m cable from JB 6004 to CM/DM 60x0 and maximum one CM/DM 60x0 on each output of JB 6004.

Length of Feeding cable, Type CAT5 AWG24	Length of Cable between each JB 6004, Type CAT5 AWG24	Total cable length	Number of JB 6004	Max. number of DM 60x0
10 m	3 m	40 m	11	44
30 m	3 m	57 m	10	40
50 m	3 m	74 m	9	36
100 m	3 m	115 m	6	25
150 m	3 m	159 m	4	16

CM/DM 6060F/6510F Chairman/Delegate Units – CU 6010/6011

The following table shows the maximum number of units, which can be connected to *each* of the four outputs (A1, A2, B1 or B2) on a **CU 6010/6011** Central Unit or on *each* output on an EX 6010 Extension Unit or on the output of a PS 6000.

Length of Feeding Cable Type CAT5 AWG24	Length of inter connecting Cable, Type CAT5 AWG24	Total cable length	Max. number of CM/DM 60x0 pr output
10 m	1 m	39 m	30
30 m	1 m	56 m	27
50 m	1 m	73 m	24
100 m	1 m	115 m	16
150 m	1 m	160 m	11
10 m	2 m	64 m	28
30 m	2 m	78 m	25
50 m	2 m	94 m	23
100 m	2 m	130 m	16
150 m	2 m	170 m	11

CM/DM 6560F Chairman/Delegate Units – CU 6010/6011

The following table shows the maximum number of units, which can be connected to *each* of the four outputs (A1, A2, B1 or B2) on a **CU 6010/6011** Central Unit or on *each* output on an EX 6010 Extension Unit or on the output of a PS 6000.

Length of Feeding Cable Type CAT5 AWG24	Length of inter-connecting Cable, Type CAT5 AWG24	Total cable length	Max. number of CM/DM 60x0 pr output
10 m	1 m	35 m	27
30 m	1 m	53 m	24
50 m	1 m	70 m	21
100 m	1 m	113 m	14
150 m	1 m	159 m	10
10 m	2 m	58 m	25
30 m	2 m	72 m	22
50 m	2 m	88 m	20
100 m	2 m	126 m	14
150 m	2 m	166 m	9

DC 6990P Conference Units – CU 6010/6011

The following table shows the maximum number of units, which can be connected to *each* of the four outputs (A1, A2, B1 or B2) on a **CU 6010/6011** Central Unit or on *each* output on an EX 6010 Extension Unit or on the output of a PS 6000.

Length of Feeding Cable Type CAT5 AWG24	Length of inter connecting Cable, Type CAT5 AWG24	Total cable length	Max. number of DC 6990P pr output
10 m	1 m	35 m	26
30 m	1 m	53 m	24
50 m	1 m	70 m	21
100 m	1 m	112 m	13
150 m	1 m	158 m	9
10 m	2 m	56 m	25
30 m	2 m	72 m	22
50 m	2 m	90 m	19
100 m	2 m	124 m	13
150 m	2 m	166 m	9

DC 6990P Conference Units – CU 6005

The following table shows the maximum number of units, which can be connected to the two outputs (A1 and A2) simultaneously on a **CU 6005** *in total*

If only one chain is used the information in the above table must be used.

Length of Feeding Cable Type CAT5 AWG24	Length of inter connecting Cable, Type CAT5 AWG24	Total cable length	Max. number of DC 6990 for both outputs
10 m	1 m	2x34 m	2x15
30 m	1 m	2x43 m	2x14
50 m	1 m	2x62 m	2x13
100 m	1 m	2x110 m	2x11
150 m	1 m	2x158 m	2x9
10 m	2 m	2x36 m	2x14
30 m	2 m	2x54 m	2x13
50 m	2 m	2x90 m	2x12
100 m	2 m	2x118 m	2x10
150 m	2 m	2x164 m	2x8

MU 6040C/D and MU 6042D without connected loudspeaker – CU 6010/6011

This table shows the maximum number of MU 6040 Microphone Units, which can be connected to *each* of the four outputs (A1, A2, B1 or B2) on a **CU 6010/6011** Central Unit or on *each* output on an EX 6010 Extension Unit or on the output of a PS 6000.

The numbers are valid with no audio in loudspeaker (no loudspeaker connected to each unit). If loudspeakers are used, then use the figures for CM/DM 60x0P above.

Length of Feeding Cable, Type CAT5 AWG24	Cable length between each MU 6040	Total cable length	Max. number of MU 6040
10 m	2 m	168 m	80
30 m	2 m	178 m	75
50 m	2 m	188 m	70
100 m	2 m	200 m	51
150 m	2 m	200 m	26
100 m	1 m	151 m	52
150 m	1 m	191 m	42

IS 6132P Interpreter Units – CU 6010/6011

The tables below shows the maximum number of IS 6132P Interpreter Sets, which can be connected to *each* of the four outputs (A1, A2, B1 or B2) on a **CU 6010/6011** Central Unit or on *each* output on an EX 6010 Extension Unit or on the output of a PS 6000.

The numbers are with no audio in loudspeaker (no loudspeaker connected to each unit).

If loudspeakers are used, then use the figures for CM/DM 60x0P above.

Note: The number of units is dependant of how many interpreter sets there are per booth (or language), as there only can be one set switched ON per language (channel).

Length of Feeding Cable, Type CAT5 AWG24	Length of inter-connecting Cables, Type CAT5 AWG24	Max. number of units pr output All ON	½ ON	1/3 ON
10m	2 m	54	x	x
30m	2 m	49	57	60
50m	2 m	44	51	x
100m	2 m	35	40	x
150m	2 m	25	30	x

IS 6132P w/JB 6004 and LS 6032 – CU 6010/6011

Length of Feeding Cable, Type CAT5 AWG24	Length of cable between booths	Number of booths	Number of IS 6132/ booths	Number of LS 6032/ booths
10 m	5 m	19	4	0
10 m	5 m	12	4	4
30 m	5 m	17	4	0
30 m	5 m	10	4	4
50 m	5 m	15	4	0
50 m	5 m	9	4	4
100 m	5 m	11	4	0
100 m	5 m	7	4	4
150 m	5 m	8	4	0
150 m	5 m	5	4	4

CS 6032F Channel Selector w/back light on – CU 6010/6011

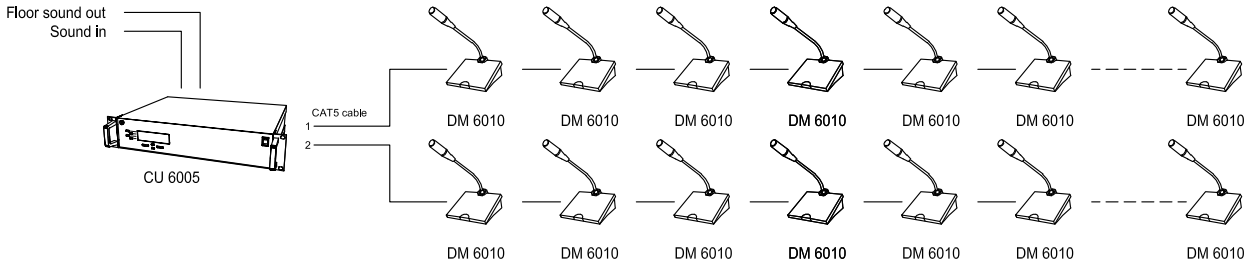
The tables below shows the maximum number of CS 6032F Channel Selectors, which can be connected to *each* of the four outputs (A1, A2, B1 or B2) on a **CU 6010/6011** Central Unit or on *each* output on an EX 6010 Extension Unit or on the output of a PS 6000.

Length of Feeding Cable Type CAT5 AWG24	Length of Inter-connecting cable, Type CAT5 AWG24	Total cable length	Max. number of CS 6032 pr output
30 m	1 m	139 m	110
50 m	1 m	144 m	95
100 m	1 m	184 m	85
150 m	1 m	200 m	51
10 m	2 m	200 m	96
30 m	2 m	200 m	86
50 m	2 m	200 m	76
100 m	2 m	200 m	51
150 m	2 m	200 m	26

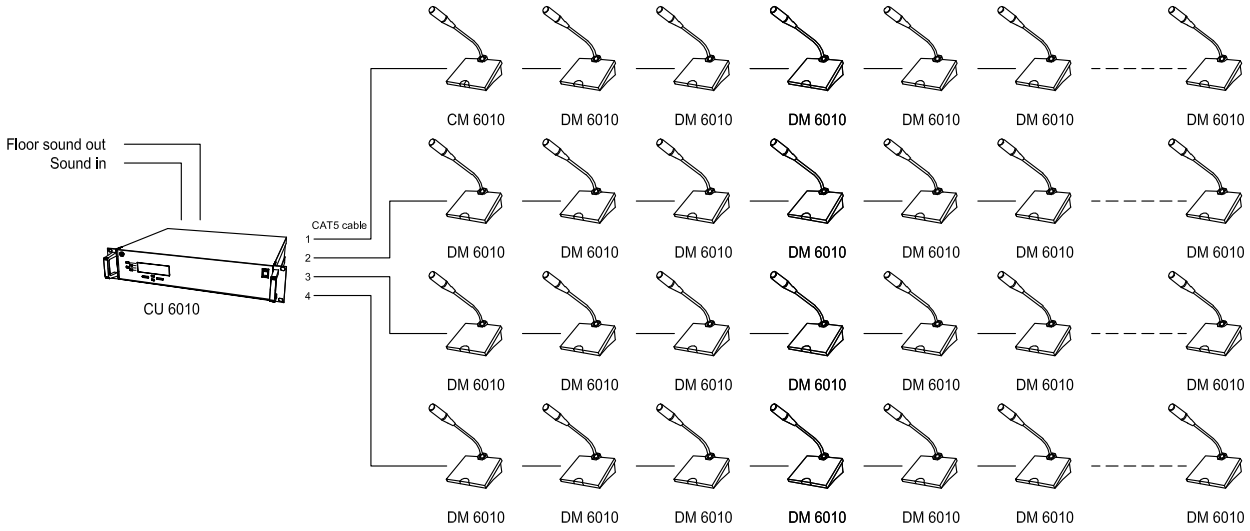
Typical schematics

The following schematics are showing various configurations:

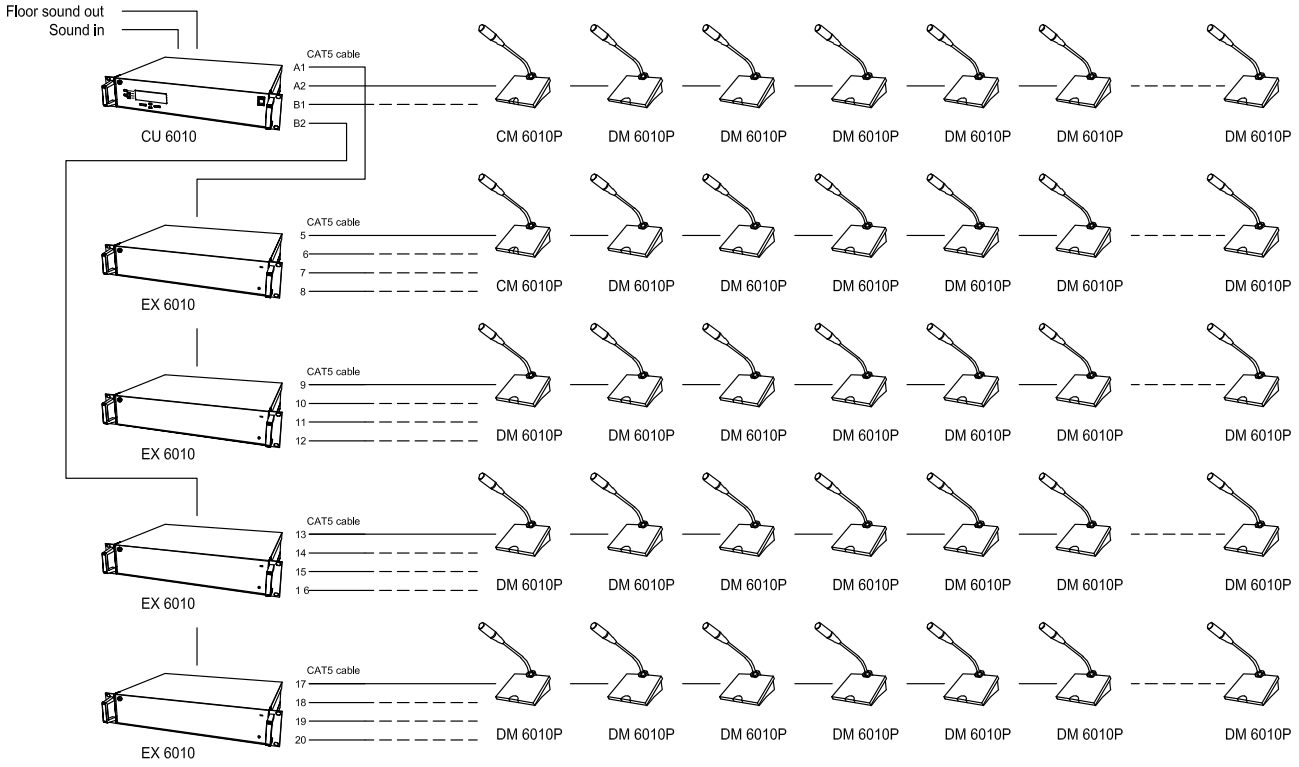
Small conference microphone system with CU 6005



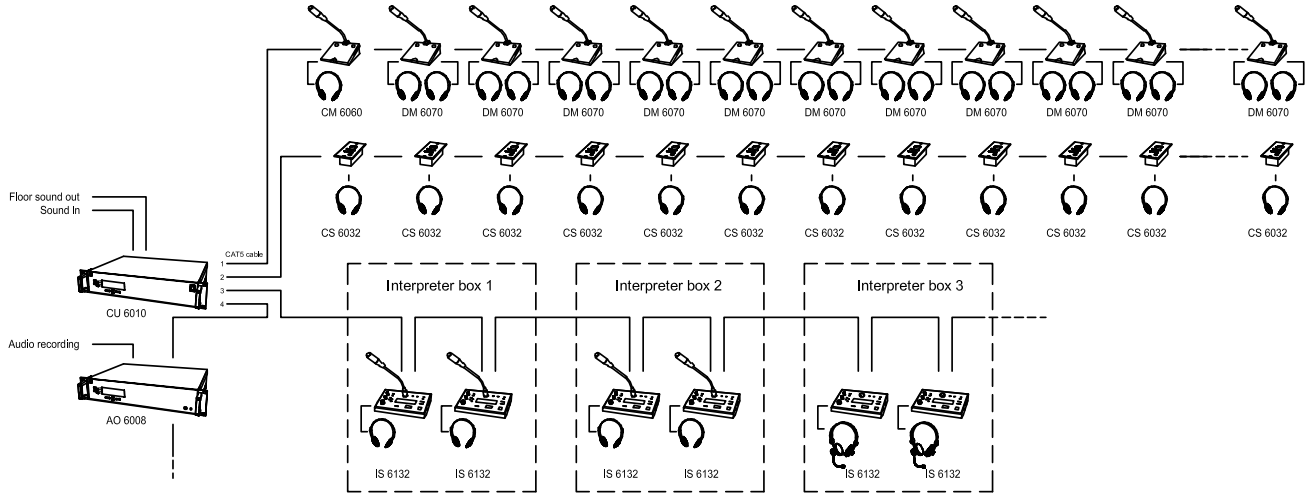
Small conference microphone system with CU 6011



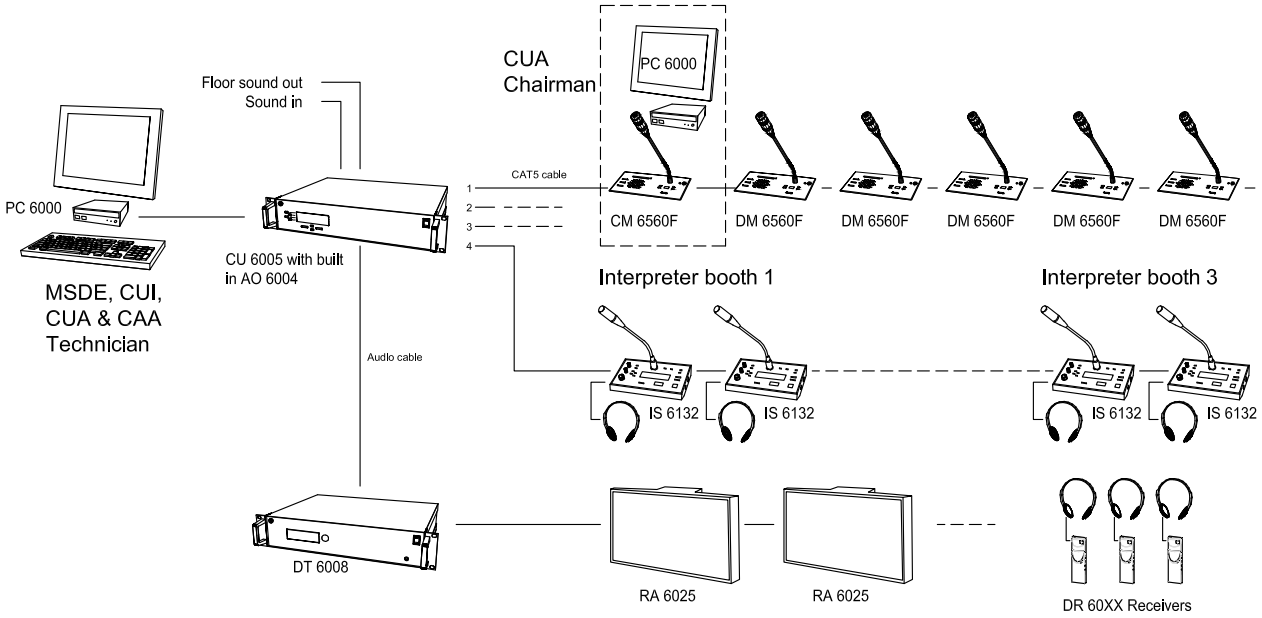
Large size conference microphone system



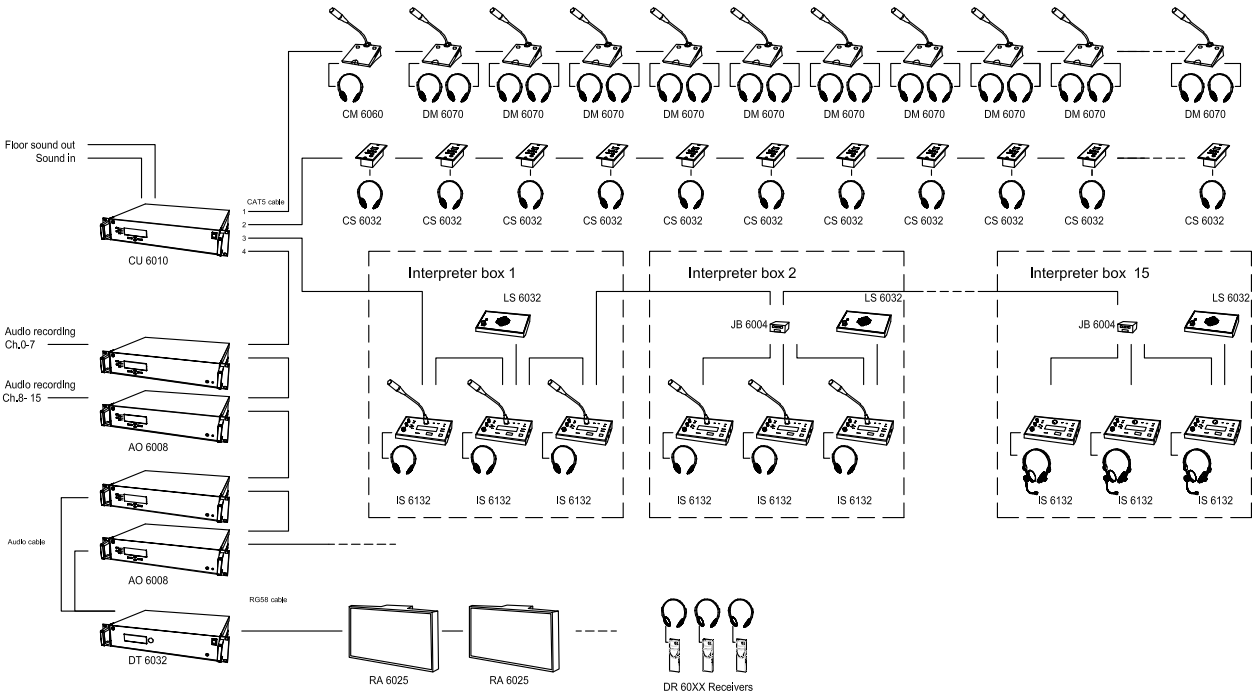
Microphone conference system with interpretation CU 6011



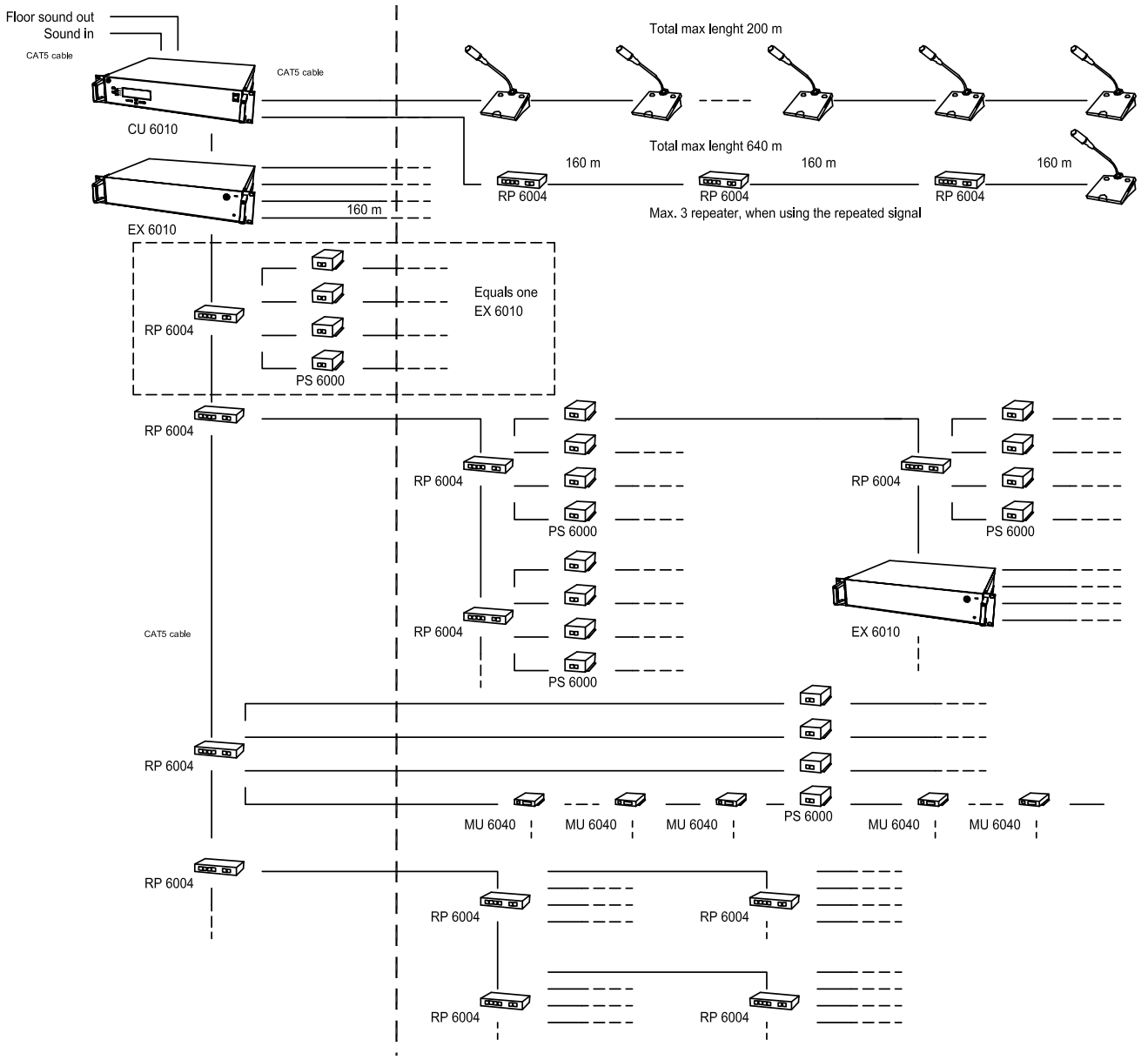
Microphone conference system with 3+1 ch. interpretation & IR, CU 6005



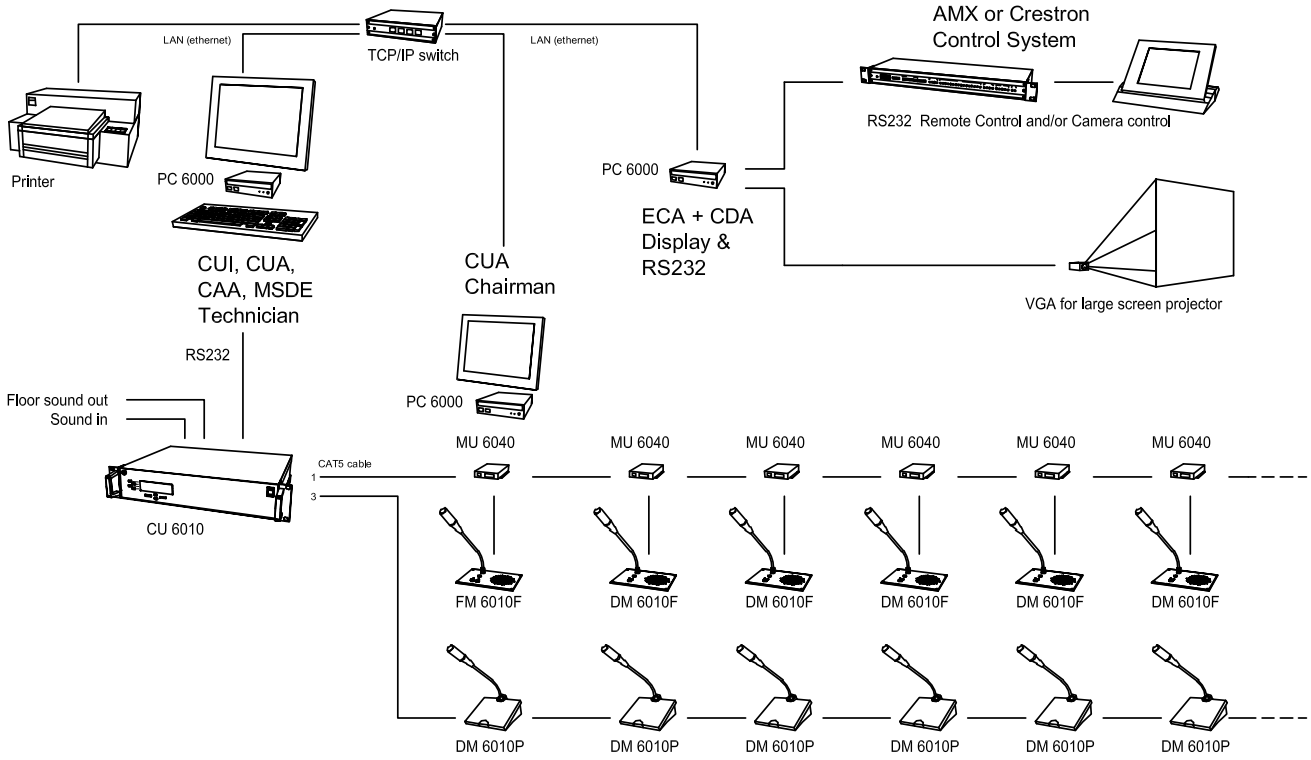
Microphone conference system with 15+1 ch. interpretation & IR, CU 6011



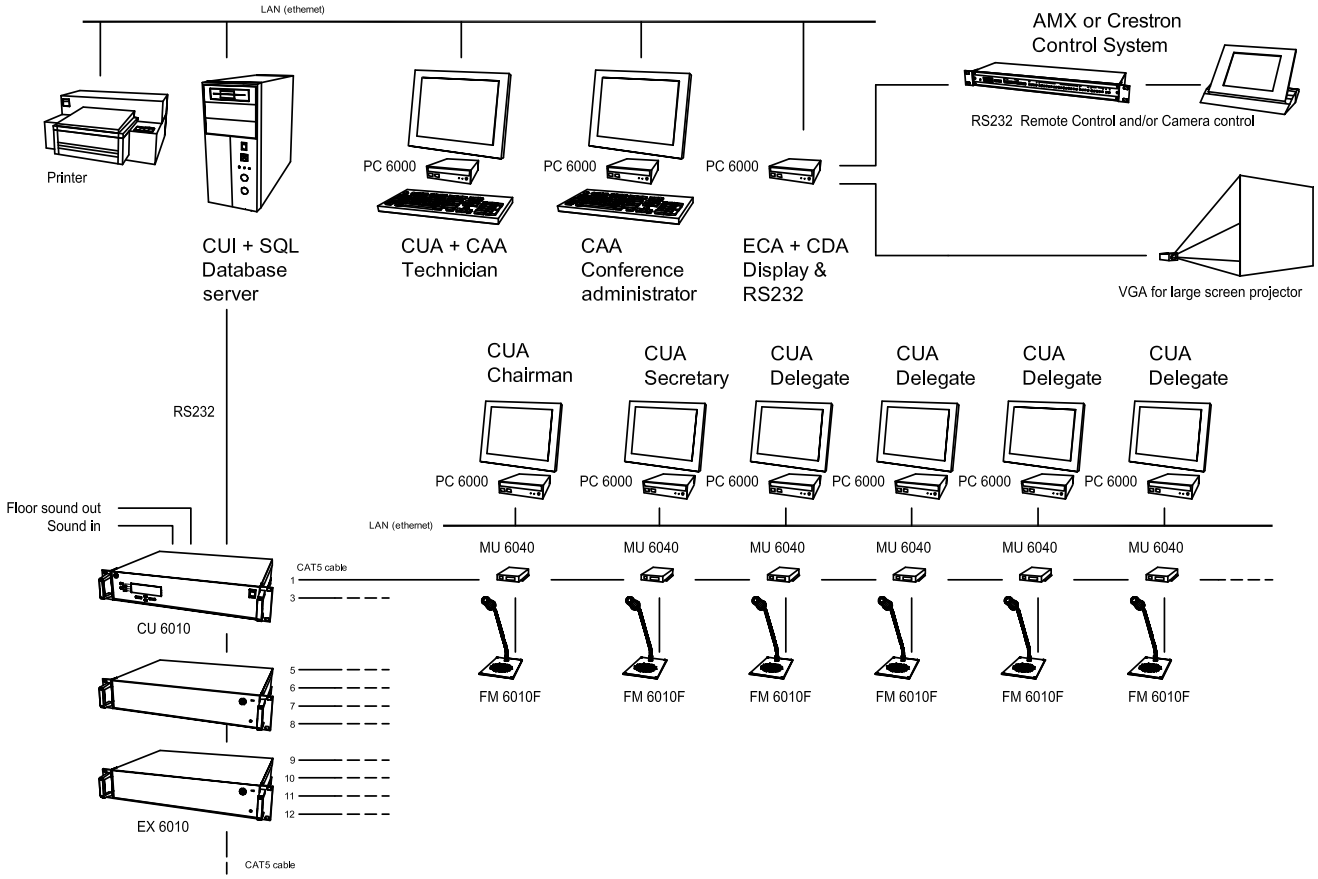
Various configurations with RP 6004 Repeater and PS 6000 Power Supply



Small system with SW 6000 Conference Management Software



Large system with SW 6000 Conference Management Software



Appendix

Technical appendix

Cabling

CAT5

The DCS 6000 system uses CAT5, CAT5e or CAT6 FTP or STP cables with screened RJ45 connectors.

EIA 568-B wiring shall be used.

It is important to use only FTP or STP (screened) cables and screened RJ45 connectors and not UTP cable, which is unscreened.

How to wire a CAT5 (EIA 568-B) Cable:

Pin	Function	Connector #1	Connector #2
1	In-going +	ORG/WHT	ORG/WHT
2	In-going -	ORG	ORG
3	+48V	GRN/WHT	GRN/WHT
4	0V	BLU	BLU
5	0V	BLU/WHT	BLU/WHT
6	+48V	GRN	GRN
7	Outgoing -	BRN/WHT	BRN/WHT
8	Outgoing +	BRN	BRN

Note. If other colour codes are used then the four pairs are connected as follows:

Pair 1: Pin 1 & 2

Pair 2: Pin 3 & 6

Pair 3: Pin 4 & 5

Pair 4: Pin 7 & 8

The phase of the pairs must be correct and the wiring spec. as stated in CAT5 (EIA 568-B) have to be followed.

Note: CAT6 cables can normally only be terminated in sockets (female) and not in cable plugs.

CAT6 can thus only be used for longer cable draws terminating in wall outlets or patch panels.

RS 232 Serial connection

Pin	RS232 on CU 6005/6010/6011 D9S	Pin	RS232 on PC D9P
1	*	1	DCD
2	TxD	2	RxD
3	RxD	3	TxD
4	*	4	DTR
5	0V	5	0V
6	*	6	DSR
7	RTS	7	CTS
8	CTS	8	RTS
9		9	RI

Connect all pins in the connectors: Pin 1 to Pin 1, Pin 2 to Pin 2, Pin 3 to Pin 3 and so on.

* Pin 1, 4 and 6 are connected together inside the CU 6005/6010/6011.

RS 422 Serial connection

Pin	RS422 on CU 6005/6010/6011 D9P	Pin	RS422 on PC
1	RXD+(B)	1	
2	RXD-(A)	2	
3	TXD-(A)	3	
4	TXD+(B)	4	
5	0V	5	
6	RTS-(A)	6	
7	RTS+(B)	7	
8	CTS+(B)	8	
9	CTS-(A)	9	

Note. There is no standard for the pin layout of the RS422. Please consult the manual for the RS422 card in your PC or control system.

Important

Please observe that either the RS232 Serial Connection or the RS422 Serial Connection can be used. It is not possible to use both at the same time.

Analog Audio, Line output (XLR3 male)

Pin	Signal	Cable type
1	Ground	DIS type #2914 or 2 x 0.25 mm^2 shielded.
2	In phase signal	
3	Out phase signal	

Analog Audio, Line Input (XLR3 female)

Pin	Signal	Cable type
1	Ground	DIS type #2914 or 2 x 0.25 mm^2 shielded.
2	In phase signal	
3	Out phase signal	

Accessories (not supplied)

Cat 5 Connection Cables (AWG24)

EC 6000-0.5 Connection Cable 0.5 m.....10 03 12500

EC 6000-01 Connection Cable 1 m.....10 03 13101

EC 6000-02 Connection Cable 2 m.....10 03 13201

EC 6000-05 Connection Cable 5 m.....10 03 13501

EC 6000-10 Connection Cable 10 m.....10 03 14102

EC 6000-20 Connection Cable 20 m.....10 03 14202

EC 6000-50 Connection Cable 50 m.....10 03 14502

RS232 cables

EC 4010-05 Connection Cable 1 m.....15 51 05563

EC 4010-05 Connection Cable 2 m.....15 51 05564

EC 4010-05 Connection Cable 5 m.....15 51 05565

EC 4010-05 Connection Cable 10 m.....15 51 05566

Technical specifications

Digital Section

Sound quality .....24 bit audio @ 32 kHz sampling frequency

Analogue Section

Floor output signal type.....electronically balanced

Nominal output level ..... -8 dBm at nominal input

Max. output level.....3.5V RMS ~ +13 dBm

Line input signal type .....electronically balanced

Nominal input level (adjustable) .....

.....+6 to -30 dBm (1.55 V RMS to 25 V RMS)

Max. input level ..... +30 dBm (25V RMS)

Line input impedance .....25-50 kohm

Frequency response 50-15kHz

Signal to noise ratio: ..... >85 dBA

Total harmonic distortion: .....< 0.1%

General

Power consumption .....max. 150W (CU 6005)

.....max. 600W (CU 6010/6011)

In-rush current.....max. 30A@115V or max. 60A@230V

Mains voltage: ..... 100 - 240V, 50 - 60Hz

Supply voltage for units.....

(for: A1 plus A2).....48V/125W (CU 6005)

(for each: A1, A2, B1, B2) .....48V/125W (CU 6010/6011)

Temperature to guarantee specified performance

.....5 Deg C. to 40 Deg C. (35 to 80% humidity)

Storage temp..... -20 Deg C. to 60 Deg C. (10 to 80% humidity)

Weight ..... 5.7 kg (CU 6005)

..... 6.2 kg (CU 6010/6011)

Dimensions (W x H x D)..... 425 (483) x 87 x 317 (357) mm

Dimensions in bracket are including 19” brackets

Slot dimensions (W x H x D) .... 180 x 38 x 120 mm (CU 6005)

Accessories supplied ..... User manual

.....Mains cable

.....5 pieces termination plugs

Connectors

DCS 6000 network chain (DCS-LAN) RJ45

.....2 pieces (CU 6005)

.....4 pieces (CU 6010/6011)

Maximum number of units to be connected to the two outputs in total on a CU 6005 or to each chain of the four outputs on a CU 6010/6011:

MU 6040 Microphone Units ..... up to 80 pieces

DM/CM 60x0P Delegate/Chairman Unit ...up to 42 pieces

IS 6132P Interpreter Set.....up to 54 pieces

CS 6032F Channel Selector .....up to 110 pieces

The actual maximum number of units depends on the length of the feeding cable and interconnection cables

Line output.....XLR3 male connector

Line input.....XLR3 female connector

RS 232 (with hardware handshake) .....D-Sub 9 female

RS 422 (with hardware handshake.....D-Sub 9 male

.....either the RS232 or the RS422 can be used

System performance with CU 6005/6010/6011 as central unit

Max. number of conference units .....3800 (CU 6010/6011)

Max. number of conference units .....500 (CU 6005)

Max. number of units (excl. CS).....4000

Max. number of IS 6xxx in one booth 32

Max. number of IS 6xxx 150

Max. number of AO 6004/6008.....20

Max. number of CS 6032.....practically unlimited

Max. number of languages.....16 (CU 6005)

.....31 (CU 6010/6011)

Max number of open microphones.....8

The DCS 6000 system conforms to all relevant standards - e.g. IEC 914, ISO 4043, and ISO 2603

Specifications are subject to change without notice.